

What is claimed is:

1. A method of improving connectivity among topology subnets using a common connection network, comprising steps of:

- determining, by a border node located at a border of a particular one of the topology subnets, one or more links between the border node and a neighboring border node located at the border of a different one of the topology subnets;
- creating a list of the determined links;
- determining, when a first session endpoint resides in the particular one of the topology subnets, whether the first session endpoint has connectivity to a global virtual routing node ("GVRN"), and adding link information to the created list to represent this connectivity if so; and
- forwarding the created list to the neighboring border node.

2. The method according to Claim 1, further comprising the steps of:

- receiving, at the neighboring border node, the created list;
- when a second session endpoint resides in the different one of the topology subnets, performing steps of:
 - determining whether the second session endpoint has connectivity to the GVRN or to another GVRN, and adding link information to the created list to represent this connectivity if so; and
 - using the created list to select a data transmission path between the first session endpoint and the second session endpoint; and
 - when the second session endpoint does not reside in the different one of the topology

subnets, performing steps of:

determining, by the neighboring border node, one or more links between the neighboring border node and a different border node located at the border of another one of the topology subnets; and
forwarding the created list to the different border node.

3. The method according to Claim 2, wherein the step of using the created list to select a data transmission path further comprises the step of checking to see if both the first session endpoint and the second session endpoint have connectivity to a single GVRN, and if so, determining whether selecting the GVRN as a node in the data transmission path results in an optimal data transmission path.

4. A global virtual routing node ("GVRN") for interconnecting multiple topology subnets using a common connection network which extends beyond each of the topology subnets, comprising:

connections which are defined from one or more nodes in the topology subnets to the GVRN;

means for representing the connections as links between physical nodes in the topology subnets; and

means for selectively analyzing the represented connections along with the links between physical nodes when selecting a data transmission path through the multiple topology subnets, wherein the data transmission path spans the common connection network if the connections to

the GVRN are selected.

5. A system for improving connectivity among topology subnets using a common connection network, comprising:

means for determining, by a border node located at a border of a particular one of the topology subnets, one or more links between the border node and a neighboring border node located at the border of a different one of the topology subnets;

means for creating a list of the determined links;

means for determining, when a first session endpoint resides in the particular one of the topology subnets, whether the first session endpoint has connectivity to a global virtual routing node ("GVRN"), and adding link information to the created list to represent this connectivity if so; and

means for forwarding the created list to the neighboring border node.

6. The system according to Claim 5, further comprising:

means for receiving, at the neighboring border node, the created list;

when a second session endpoint resides in the different one of the topology subnets,

means for:

determining whether the second session endpoint has connectivity to the GVRN or to another GVRN, and adding link information to the created list to represent this connectivity if so; and

using the created list to select a data transmission path between the first session

9 endpoint and the second session endpoint; and

10 when the second session endpoint does not reside in the different one of the topology
11 subnets, means for:

12 determining, by the neighboring border node, one or more links between the
13 neighboring border node and a different border node located at the border of another one of the
14 topology subnets; and

15 forwarding the created list to the different border node.

1 7. The system according to Claim 6, wherein the means for using the created list to select a
2 data transmission path further comprises means for checking to see if both the first session
3 endpoint and the second session endpoint have connectivity to a single GVRN, and if so,
4 determining whether selecting the GVRN as a node in the data transmission path results in an
5 optimal data transmission path.

1 8. A computer program product for improving connectivity among topology subnets using a
2 common connection network, the computer program product embodied on one or more computer
3 readable media and comprising:

4 computer readable program code means for determining, by a border node located at a
5 border of a particular one of the topology subnets, one or more links between the border node
6 and a neighboring border node located at the border of a different one of the topology subnets;

7 computer readable program code means for creating a list of the determined links;

8 computer readable program code means for determining, when a first session endpoint

9 resides in the particular one of the topology subnets, whether the first session endpoint has
10 connectivity to a global virtual routing node ("GVRN"), and adding link information to the
11 created list to represent this connectivity if so; and
12 computer readable program code means for forwarding the created list to the neighboring
13 border node.

1 9. The computer program product according to Claim 8, further comprising:

2 computer readable program code means for receiving, at the neighboring border node, the
3 created list;

4 when a second session endpoint resides in the different one of the topology subnets,

5 computer readable program code means for:

6 determining whether the second session endpoint has connectivity to the GVRN
7 or to another GVRN, and adding link information to the created list to represent this connectivity
8 if so; and

9 using the created list to select a data transmission path between the first session
10 endpoint and the second session endpoint; and

11 when the second session endpoint does not reside in the different one of the topology
12 subnets, computer readable program code means for:

13 determining, by the neighboring border node, one or more links between the
14 neighboring border node and a different border node located at the border of another one of the
15 topology subnets; and

16 forwarding the created list to the different border node.

